CLAIMS

I claim:

1. A system for field replacement of networked devices, comprising the steps of:
detecting a failed networked device;
replacing said failed networked device with a functioning networked device;
locating a canonical location of said functioning networked device;
issuing an IP address to said functioning networked device, wherein said IP address is identical to the IP address of said failed networked device.

2. A system according to claim 1, wherein said step of detecting said failed networked device is accomplished by a unicast ARP request.

3. A system according to claim 1, wherein said step of detecting said failed networked device is accomplished by periodic ARP requests.

4. A system according to claim 1, further comprising a step of notifying maintenance personnel of said failed networked device.

5. A system according to claim 1, wherein said step of detecting a failed networked device comprises processing a plurality of ARP requests over a time period before indicating said failed networked device.

6. A system according to claim 1, wherein said step of locating a canonical location of said functioning networked device comprises the steps of requesting a MAC address for said functioning networked device and requesting a port number for said MAC address from a managed switching device, wherein said port number is said canonical location of said functioning networked device.

7. A system according to claim 1, wherein said step of locating a canonical location of said functioning networked device comprises the steps of identifying a plurality of target devices at said canonical location, comparing said canonical location of said functioning networked device with a database containing information of all said networked devices to isolate a single failed networked device at said canonical location.

8. A system according to claim 1, wherein said step of issuing an IP address to said functioning networked device is suppressed if unable to isolate to a single failed networked device.

9. A method for determining a canonical location for a plurality of networked devices, comprising the steps of:

maintaining a list of IP addresses for each of said plurality of networked devices on a monitor agent;

requesting and retrieving a MAC address for each of said plurality of networked devices;

maintaining a list of MAC addresses for each of said plurality of networked devices on said monitor agent;

requesting and retrieving a port number on a switching device for each said MAC address;

maintaining a list of port numbers for each of said plurality of networked devices on said monitor agent; and

processing said canonical location for each of said plurality of networked devices.

10. A method according to claim 9, wherein said monitor agent comprises a computing means and a memory means.

11. A method according to claim 9, wherein said switching device is a managed switching device and said port number is dedicated to said networked device and is said canonical location.

12. A method according to claim 9, wherein said switching device is an unmanaged switching device and said port number is shared among a plurality of target devices.

13. A method for detecting a canonical location for a failed network device, comprising the steps of:

requesting a MAC address for each of a plurality of networked devices;

detecting said failed network device;

processing said MAC address for said canonical location of said failed network device; and

logging said MAC address, said canonical location, and an IP address for said failed network device.

14. A method according to claim 13, wherein said requesting uses a unicast ARP message to a select IP address.

15. A method according to claim 13, wherein said step of detecting said failed network device is based on no responsive from said requesting step.

16. A method according to claim 13, further comprising a step of notifying maintenance personnel upon detecting said failed network device.

17. A method according to claim 13, wherein said step of requesting said MAC address is periodic.

18. A method according to claim 13, wherein said step of processing said MAC address for said canonical location comprises accessing a database containing a MAC address listing, an IP address listing and a port listing for each of said plurality of networked devices, and wherein a port number represents said canonical location of said failed network device.

19. A method according to claim 13, wherein said step of processing said MAC address for said canonical location comprises accessing a database containing a MAC address listing, an IP address listing and a port listing for each of said plurality of networked devices, and wherein a port number represents said canonical location of a plurality of target devices, and said IP address of said failed network device is determined by locating a single failed target device at said canonical location.

20. An apparatus for the automatic configuration of networked devices, comprising:
a network interface interconnecting said networked devices;
a means of detecting said networked devices;
a means of determining a canonical location of said networked devices; and
a monitor agent connected to said network interface, wherein said monitor agent issues an IP address to each of said networked devices and records a MAC address for each of said networked devices and wherein said monitor agent maintains a list of each said IP address and each said MAC address.

21. An apparatus according to claim 20, further comprising a means of processing a new IP address for a new networked device, wherein said new IP address does not conflict with said list of each said IP address maintained by said monitor agent.

22. An apparatus according to claim 20, wherein said means of detecting said networked devices is accomplished by a periodic unicast ARP request.

23. An apparatus according to claim 20, wherein said means of determining a canonical location of said networked devices comprises a means of processing a port number for said MAC address from a managed switching device.

24. An apparatus according to claim 20, wherein said means of determining a canonical location of said networked devices comprises a means of processing a plurality of target devices at said canonical location.